

HOW I DO IT

Gastric Transposition with Pharyngogastric Stapler Anastomosis

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INTRODUCTION

Restoration of the alimentary tract after circumferential resection of the hypopharynx and cervical esophagus continues to be a major challenge for surgeons. Since cure is unlikely in most patients, the surgical treatment should aim at palliation with minimal morbidity and mortality, short hospitalization, and prompt return to oral feeding. The many devised methods for repairing circumferential pharyngoesophageal resection may be classified into two general types: those using skin flaps and those using transposed visceral organs, with or without microvascular anastomosis. Transmediastinal gastric transposition with pharyngogastric anastomosis is perhaps one of the most widely accepted methods for restoration of the alimentary continuity after pharyngoesophageal resection. Any method that is capable of shortening the duration of this unduly long procedure would be well received. The standard pharyngogastric hand-made pharyngogastric anastomosis is usually wide, easily fashioned, and entirely satisfactory. In this report, we describe a new method of pharyngogastric anastomosis using a circular stapler (Proximate ILS CDH-29, Ethicon Endo-Surgery, Cincinnati, OH).

TECHNIQUE

The total pharyngolaryngoesophagectomy and gastric transposition is done in the usual fashion by a two-team approach, as described previously [1–10]. In performing a pharyngogastric stapler anastomosis, it is essential that an incision be made below the hyoid bone instead of above it.

The technique consists of the following 6 steps, as depicted in Figure 1–4: 1) subperiosteal resection of the hyoid bone, avoiding entering the pharyngeal mucosa; 2) incision and entrance of the pharynx at a point just above

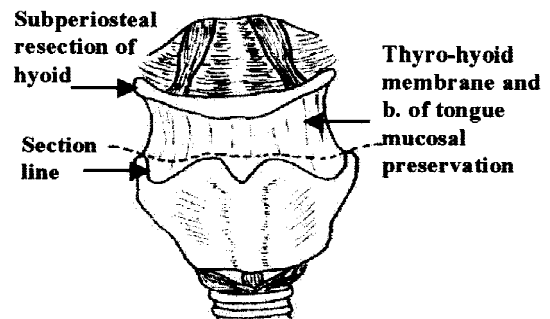


Fig. 1. The preservation of tissue for stapler pharyngogastric anastomosis.

the superior edge of the thyroid cartilage, with the preservation of a sufficient amount of mucosa at the pharynx and base of the tongue; 3) insertion of the circular stapler through the mouth; 4) fashioning of the purse-string sutures in the pharyngeal mucosa and gastric fundus (around the anvil), using strong nylon 3-0 sutures; 5) approximation and “firing” of the stapler; and 6) verification of two intact mucosal “rings” after finishing the anastomosis.

RESULTS AND COMMENTS

We have performed circular stapler anastomosis in 5 (13.8%) of 36 patients. The indications for this type of anastomosis were cervical esophageal carcinomas in 3 patients and postcricoid carcinomas in 2. We would not recommend this technique in previously irradiated patients or in patients with pyriform sinus or laryngeal primary tumors. In tumors of such locations, the upper margin would be jeopardized because the line of incision is

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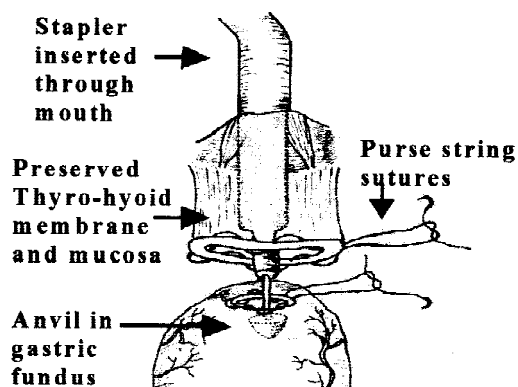


Fig. 2. Insertion of stapler through the mouth and fashioning of purse-string sutures.

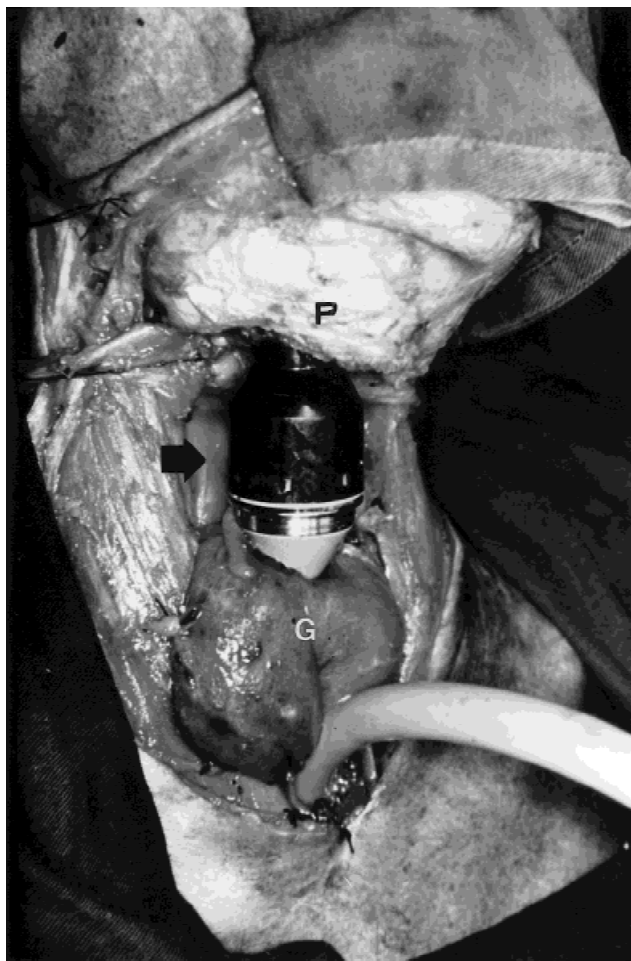


Fig. 3. Patient with stapler positioned in the pharynx (P) for anastomosis. G, gastric fundus.

just above the thyroid cartilage. The preservation of enough tissue at this level is essential in performing this technique.

Additional technical considerations included the use of a 29-mm circular stapler and reinforcement of the anas-



Fig. 4. Approximation of the anvil with the purse string tied around the anvil, showing the pharynx (P) and gastric fundus (G).

tomosis with a continuous second layer of nonabsorbable suture. The difficulty of correctly placing the posterior nonabsorbable suture is circumvented by positioning this seromuscular suture prior to the approximation and firing of the stapler (this suture is subsequently continued anteriorly). In cases in which the edge of the posterior pharyngeal mucosa is too edematous or thick, the muscular layer is separated carefully from the mucosa and submucosa in a fish-mouth fashion, permitting proper inversion of the tissue edges. Using this approach, the purse-string suture in the proximal pharyngeal wall can be fashioned without tension, to allow loose tying around the central rod of the stapler. The distal gastric circular suture around the anvil is never a problem and should be placed in the most cephalic portion of the gastric fundus. Once the anastomosis is completed, it is of utmost importance to ensure that 2 well-rounded and intact mucosal rings are obtained. This can be achieved only if the tissues are tightly compressed before stapling.

Among 5 patients, only 1 had a cervical infection and a small pharyngocutaneous fistula, which closed within a week following drainage and local care. The anastomosis

was usually wide and rapidly done. On average, oral feeding was initiated on postoperative day 14. The average operating time saved with the procedure was 40–50 min. This technique could provide an alternative approach for pharyngogastric anastomosis, in selected patients.

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